The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Robert R. Scott, Commissioner

WATER CONSERVATION PLAN APPROVAL

November 28, 2017

Deepak Sharma
Angle Wood Pond Realty Trust, Inc.
25 Pelham Road, Suite 103
Salem, NH 03079
dspediatrics@hotmail.com

Transmitted via Email

Subject: **Windham – Gateway Park**
Water Conservation Plan, NHDES # 160054

Dear Mr. Sharma:

On November 27, 2017, the New Hampshire Department of Environmental Services ("DES") Drinking Water and Groundwater Bureau received a Water Conservation Plan (the "WCP"), signed on November 15, 2017, for Gateway Park located in Windham, New Hampshire. Pursuant to RSA 485:61 and Env-Wq 2101, community water systems seeking permits from DES for new sources of groundwater shall submit a water conservation plan to DES. Based on review of the WCP, DES has determined the WCP complies with Env-Wq 2101, *Water Conservation* rules.

Pursuant to Env-Wq 2101, the Town of Windham and the Southern New Hampshire Planning Commission were provided a copy of the WCP, along with other required materials.

DES approves the WCP based on the following conditions:

1. Each building will be designed and developed using water efficiency best management practices, including but not limited to the best management practices described in the WCP and per the guidance of EPA's "WaterSense at Work: Best Management Practices for Commercial and Institutional Facilities."

2. Within two months of receiving permit approval from the Windham Planning Board, a water efficiency plan for each building will be sent to DES for review and approval in accordance with the WCP.

3. Implementation of the water efficiency plan for the building shall not commence until DES has issued approval of the water efficiency plan.

4. No later than source activation, all source meters, distribution meters, meters measuring water consuming processes, and any transfer meters and data loggers shall be installed.

5. Upon source activation, source meters and any other meters measuring water consuming processes prior to distribution shall be read monthly, no sooner than 27 days and no later than 33 days from the last meter reading.

6. Upon source activation, monthly source production volumes shall be reported to the DES Water Use Registration and Reporting Program on a quarterly basis. Upon source activation, DES will assign the system a Water Use Identification number and provide instructions for registering as a data provider and utilizing the DES OneStop reporting tool.

7. No later than the source activation date, service connections shall be outfitted with meters and outside read pads. Service connections include residential homes, commercial units, and irrigation.

8. For residential homes, commercial units, and irrigation constructed after the source activation date, the service connections shall be outfitted with meters and outside read pads no later than system connection to the service.

9. Upon source activation, service meters shall be read quarterly, no sooner than 83 days and no later than 97 days from the last meter reading.

10. Upon source activation, a conservation rate structure shall be implemented and customers billed quarterly.

    a. Customers shall be charged based on the amount of water each customer uses, and the rate shall be structured so that the cost per gallon(s) is either constant or increasing with the amount of water used.

11. Upon source activation, a water conservation outreach and education program shall be implemented in accordance with the WCP, including distributing outreach materials at least twice a year with bills.

12. Upon source activation, a water balance, the difference between the system input volume and the metered authorized consumption, shall be reported annually to DES. The water balance shall be reported by March 1 for the prior year using the online reporting tool.

13. Upon source activation, a leak detection and repair program shall be implemented in accordance with the WCP.

    a. Leaks shall be repaired within 60 days of discovery.

14. From the date of this approval, all new non-metallic pipes installed in the system shall be outfitted with detectable tracer tape or detectable tracer wire, or be GPS located and maintained in a GIS system.

15. All meters shall be installed per the manufacturer's instructions or American Water Works Association standards.

16. Upon source activation, all meters shall be tested and maintained based on the schedule proposed in the WCP.

17. Every three years from the date of this approval, a *Water Conservation Plan Ongoing Compliance Reporting Form* shall be submitted to DES documenting how the system has maintained compliance with the WCP. The following records shall be maintained by the water system to include with the report:

    a. A leak log including the date a leak was discovered, the date a leak was repaired, the type of leak (ex. water main, service line, hydrant, valve), the approximate size of the leak (gpm), and the nearest address to the leak.

    b. Description of water efficiency outreach activities and the date of distribution.

    c. Date of installation and replacement of all meters as well as testing and calibration records.

    d. Description of leak detection and repair program activities.

    e. Description and evidence of implementation of the water efficiency plan for each building.

18. Proposed changes to the WCP shall not be implemented unless approved by DES.

The online *Annual Water Balance Reporting Form* and the *Water Conservation Plan Ongoing Compliance Reporting Form* may be located by going to the DES website (www.des.nh.gov), clicking on the "A-Z List" in the top right corner of the page, clicking "Water Conservation," and scrolling down to "Forms/Applications."

Please feel free to contact me with any questions at (603) 271-0659 or via e-mail at kelsey.vaughn@des.nh.gov.

Sincerely,

Kelsey Vaughn

Kelsey Vaughn
Water Conservation Program
Drinking Water and Groundwater Bureau

ec: Neil Helberg, Lewis Engineering, PLLC
Town of Windham
Southern New Hampshire Planning Commission
Steve Roy, DES
Stacey Herbold, DES

WATER CONSERVATION PLAN:
GATEWAY PARK - WINDHAM
November 2017

A community water system seeking authorization for a new source of water must submit a water conservation plan to the New Hampshire Department of Environmental Services (NHDES) for approval demonstrating how the water system proposes to comply with water conservation standards pursuant to Env-Wq 2101, *Water Conservation* rules. Gateway Park is a new small community water system, which is also considered an Industrial, Commercial, Institutional (ICI) water user.

Activities outlined in the water conservation plan will be completed by water system personnel under the supervision of a certified water system operator.

I. Introduction

A. Contact Information

1. Name and location of system:

   Gateway Park – Range Road, Windham, NH

2. Owner of system and mailing address:

   ANGLE WOOD PARK REALTY TRUST
   25 Pelham Road, Suite 142
   Salem, NH 03079
   603-893-8030

3. Name and mailing address of designer of water conservation plan:

   Neil W. Helberg, P.E.
   Lewis Engineering, PLLC
   44 Stark Lane, Litchfield, NH 03052
   603-886-4985

B. System Overview

1. Brief description of the community being served (ex. number of units, apartments, partially attached condos, individual homes, shared common facilities, population, etc.):

   Gateway Park is a multi-use development that will include 31 2-bedroom age restricted (55+) townhomes as well as build-to-lease buildings designed to accommodate a variety of businesses. Buildings could include a bank, retail, bistro, restaurant, pharmacy, medical office suites, professional office center, corporate anchor, and a R&D tech center. The residential housing will be a mix of rental units and private units.

2. Description of water sources, including water sources to be developed for non-potable uses such as irrigation:

   Bedrock Wells No. 1, No. 2, and No. 3 are located at the east corner of the multi-use development.

3. Name designation of each proposed water source:

   Bedrock Well No. 1, Bedrock Well No. 2 and Bedrock Well No. 3

4. Number of connections proposed for each of the following classes:
   a) Residential: 31
   b) Industrial/Commercial/Institutional: 11
   c) Municipal: 0

5. The water system does not plan to provide water to any consecutive water systems or privately-owned redistribution systems.

6. There are no proposed connections that will receive more than 20,000 gpd.

C. Transfer of Ownership

1. The system ownership is not proposed to be transferred.

II. System Side Management

A. Water Meters

1. Source Meters and Other System Side Meters

a) No later than the source activation date, meters will be installed on each water source.

b) No later than the source activation date, a distribution meter will be installed to measure flow at the point of entry into the water system.

c) No separate irrigation wells are proposed.

d) Meter make, model, size and flow range of proposed meters for each new water source and other system side meters (if known):

The source meters to be installed for each well will be 1-inch Badger M2000 Mag Meter with transmitter. The 1-inch Badger Mag meters for the wells will have a flow range of 0.3 to 93 gpm.

The distribution meter will be a 6-inch Neptune Compound Meter with transmitters for each meter head. The pump house control panel for the water system controls the operation of the booster pumps based on a 4-20mA signal from the 6-inch Neptune Compound Meter's transmitters.

e) No later than the source activation date, source meters will be read at least monthly, and water use at the Pump House will be monitored using a GS-300 cell based monitoring / alarm system.

2. Service Meter Installation, Reading, and Maintenance

    a) Service meters will be installed on all service connections, including public sector service connections and all points of transfer to consecutive water systems or privately-owned distribution systems. Service meters will be installed on every commercial unit (sub-metering) and townhouse. Irrigation water will also be metered.

    b) Service meters will be installed no later than the source activation date, or if a home/commercial unit is constructed after source activation, no later than connection of the home/commercial unit to the water system.

    c) Service meters will be read every 90 days (quarterly) by a remote read, which will be upgradable to newer technology.

    d) It is expected it will take 1 day to read all service meters.

    e) Service meters will be maintained in accordance with II.A.3.e), below.

3. Meter Selection, Installation and Maintenance

    a) All meters will be American Water Works Association (AWWA) certified, with the exception of b), below.

    b) AWWA does not have standards for magnetic flow meters. If a magnetic flow meter is proposed, the meter make, model, size and manufacturer specifications will be forwarded to the NHDES Water Conservation program for review. The meter will not be installed until receiving approval for its use from NHDES.

    c) The selected size of the meters will be based on projected flow rates.

    d) Meters will be installed as specified by the manufacturer, including requirements for horizontal or vertical placement, distance of straight run of pipe upstream and downstream of the meter and strainer installation. If the manufacturer does not supply installation specifics, meters will be installed in accordance with the "Manual of Water Supply Practices M6, Water Meters-Selection, Installation, Testing, and Maintenance" (AWWA, 2012).

    e) The following meter testing and calibration schedule or meter change-out schedule will be implemented. If the manufacturer's accuracy warranty extends beyond the schedule below, the meter will be tested or changed-out no later than the warranty expiration date.

Meter Size (inches)	**Testing Rate (years)**
<1"	10 yrs
1" - 2"	4 yrs
3"	2 yrs
>3"	1 yr

f) A log of the date when meters were installed, tested, calibrated, repaired and replaced will be maintained. Calibration certificates will be kept on file.

B. Water Balance and Water Audit

1. A yearly water balance (system input volume – authorized metered consumption) will be reported to NHDES using the NHDES online water balance reporting tool and will be submitted no later than March 1 of each year. The electronic reporting form is located on the Water Conservation homepage of the NHDES website.

2. The water system will prepare and submit a water audit and response plan if more than 15% of the system input volume cannot be accounted for by authorized metered consumption. The response plan will identify how the water system intends to reduce losses to below 15% within two years.

3. Water audits will be calculated in accordance with the "Manual of Water Supply Practices M36, Water Audits and Loss Control Programs" (AWWA, 2016).

C. Pressure Management

1. The design pressures of the system are from 70 psi to 85 psi.

D. Leak Detection and Repair

1. A leak detection program will be implemented upon source activation. The leak detection program will be as follows:

a) Hourly, Daily, and Monthly water usage for the system will be tracked using a logging system that uploads all metered data from the Pump House to an onsite or remote computer. The uploaded data will be available to the Owner and the Owner's Certified Operator so that trends in water usage can be easily tracked and required water system reporting easily prepared. As the water system expands towards buildout each year, with new buildings being constructed and occupied, daily water usage will be tracked and recorded to assure that the water consumed by the system will not exceed the Permitted Production Volume for the three (3) bedrock wells.

b) If water usage and water loss trend upward, the water system will be investigated by visually inspecting the system and if unsuccessful in locating the leak(s), a leak detection specialist will be contracted to locate the leak(s).

2. All non-metal pipes will either be GPS located and stored in a GIS system or equipped with detectable tracer tape or detectable tracer wire.

3. Leak detection will be conducted in accordance with the "Manual of Water Supply Practices M36, Water Audits and Loss Control Programs" (AWWA, 2016).

4. Leaks will be repaired within 60 days of discovery unless a waiver is obtained in accordance with Env-Wq 2101.23.

5. A log of all leaks will be maintained, including the date the leak was discovered, the date the leak was repaired, the type of leak (ex. service, main, hydrant, valve), the size of the leak (gpm) and the location of the leak.

E. Water Conservation Best Management Practices

1. Each building will be designed and developed using water efficiency best management practices and specifically per the guidance of EPA's "WaterSense at Work: Best Management Practices for Commercial and Institutional Facilities", which can be found at https://www.epa.gov/sites/production/files/2017-02/documents/watersense-at-work_final_508c3.pdf.

2. Additional details for water efficiency best management practices may also be found at:

-NHDES Fact Sheet DWGB-26-7 (Water Efficiency: Industrial Water Users):
https://www.des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-26-7.pdf
-NHDES Fact Sheet DWGB-26-13 (Water Efficiency: Institutions):
https://www.des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-26-13.pdf
-NHDES Fact Sheet DWGB-26-14 (Water Efficiency: Health Care Facilities):
https://www.des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-26-14.pdf
-NHDES Fact Sheet DWGB-26-16 (Water Efficiency: Business or Industry Water Use and Conservation Audit):
https://www.des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-26-16.pdf

3. Best management practices to be adopted include, but are not limited to:

a) Sanitary Fixtures and Equipment

(1) All buildings will be equipped with water-using fixtures, appliances, and equipment that are WaterSense certified and/or ENERGY STAR certified.

(a) WaterSense certified products include toilets, urinals, faucets, and showerheads. Products may be found at: https://www.epa.gov/watersense/product-search.

(b) ENERGY STAR certified products, including commercial clothes washers, may be found at: https://www.energystar.gov/products.

b) Commercial Kitchen Equipment

(1) Boiler-based combination ovens, steam cookers, and steam kettles will not be installed.

(2) Only connectionless combination ovens, steam cookers, and steam kettles will be installed.

(3) Only waterless or air-cooled wok stoves will be installed.

(4) Only WaterSense certified pre-rinse spray valves will be installed.

(5) Only ENERGY STAR certified commercial dishwashers and ice makers will be installed.

c) Mechanical Systems

(1) No equipment or system designed with single-pass cooling will be installed.

(a) Types of equipment that use single-pass cooling include:

I. Point-of-use chillers or other refrigeration systems
II. Condensers
III. Air compressors
IV. Air conditioners
V. Hydraulic equipment
VI. CAT scanners
VII. Degreasers
VIII. Welding machines
IX. Vacuum pumps
X. X-ray equipment
XI. Ice machines
XII. Wok stoves

(2) Make-up water and blowdown water will be metered at cooling towers and boiler and steam systems. An operation and maintenance program will be established for both to ensure that the systems are running efficiently.

d) Outdoor Water Use

(1) Any water used for outside irrigation will be regulated with smart controllers with rain and weather sensors. The smart controllers will be regulated by the landscaper for the Association and will be locked to limit access. Any irrigation water shall be metered and read at the same time as the other service meters.

(2) An audit of all automatic lawn watering systems will be performed every three years to ensure the systems are functioning properly.

4. Within two months of receiving permit approval from the Windham Planning Board, a water efficiency plan will be sent to NHDES for review and approval describing:

a) A timeline for the implementation of best management practices at the building;

b) A list and description of all water uses at the building;

c) The number and make and model of all water-using fixtures, appliances, equipment, systems, and processes throughout each building and a description of how each meets the above guidance (section II.E.1. through II.E.3.);

d) Details about the building's heating/cooling system and how the system reflects water efficiency best management practices;

e) The make, model, and size of water meter(s) installed for the building; and

f) Details about any additional water efficiency features and best management practices (BMPs), including onsite alternative water sources.

5. Lease agreements for each building will include conditions reflecting the above water efficiency best management practices.

6. The website for the Gateway Park Development is found at: https://www.gatewayparknh.com/.

III. Consumption Side Management

A. Conservation Rate Structure and Billing

1. No later than the source activation date, a conservation rate structure will be implemented. Customers will be charged based on the customer's usage, and the cost per unit of water will be uniform (ex. $4.00/1000 gallons of water) or increase with usage (ex. $4.00/0-500 gallons of water, $4.50/501-1000 gallons of water).

2. The rate structure will be submitted to NHDES upon the source activation date.

3. Tenants won't be charged for irrigation on their water bills.

4. No later than the source activation date, customers will be billed quarterly.

B. Educational Outreach Initiative

1. No later than the source activation date, the system will distribute water efficiency outreach materials twice a year with bills. The bills will include water efficiency information or the following materials: NHDES Water Efficiency Fact Sheets located at http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/index.htm#efficiency or EPA WaterSense materials located at http://www.epa.gov/watersense/**.**

2. The system will maintain a log indicating how the system has complied with III. B.1., above. The log will include dates the outreach and education actions were taken and what was done.

IV. Reporting and Implementation

A. Upon source activation, and by no later than March 1 of each year, a water balance for the previous year will be submitted to NHDES using the electronic reporting form located on the Water Conservation homepage of the NHDES website (www.des.nh.gov).

B. The water system will submit a form supplied by NHDES once every three years from the date of the water conservation plan approval documenting how compliance with the requirements of Env-Wq 2101, *Water Conservation* rules, is being achieved. The system will use the meter, leak, and outreach and education logs to complete the form.

C. The water system will report monthly production volumes quarterly to the NHDES Water Use Registration and Reporting Program upon receiving a Water Use ID number from NHDES. Monthly means once every calendar month, but no sooner than 27 days after and no later than 33 days after the previous reading.

I certify that I have read this Water Conservation Plan, understand the responsibilities of the water system as referenced in the plan, and that all information provided is complete, accurate, and not misleading.

Owner Name (print): DEEPAK SHARMA for Angle pond Realty Trust

Owner Signature: _____ Date: 11/15/17

Appendix A
Definitions

Authorized metered consumption: billed metered water plus unbilled metered water.

Community water system (CWS): a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

Consecutive water system: a public water system that buys or otherwise receives some or all of its finished water from one or more wholesale systems for at least 60 days per year.

Final source approval: the date of final well siting approval or the date of issuance of the large groundwater withdrawal permit.

Large community water system: a community water system that serves more than 1,000 persons.

Privately owned redistribution system (PORS): A system for the provision of piped water for human consumption which does not meet the definition of a public water system and meets all the following criteria:

(1) Obtains all its water from, but is not owned or operated by, a public water system; (2) serves a population of at least 25 people, 10 household units or 15 service connections, whichever is fewest, for at least 60 days per year; and (3) has exterior pumping facilities, not including facilities used to reduce pressure, or exterior storage facilities which are not part of building plumbing.

Public water system (PWS): a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Small community water system: a community water system that serves 1,000 people or less.

Source activation date: the date the source is placed into use.

System input volume: the volume of water input to the water supply system after treatment, analysis and storage.

Water balance: the difference between the system input volume and authorized metered consumption.

Water conservation: any beneficial reduction in water losses, waste or use.

Wholesale system: a public water system or an industrial, commercial or institutional (ICI) water user that treats source water and then sells or otherwise delivers finished water to a consecutive water system or privately owned distribution system.

Appendix B
Notification Process

Public Notification Instructions

Once a final draft of the water conservation plan is agreed upon by the applicant and NHDES, NHDES will send a signature line to the applicant for addition to the plan along with a summary of the requirements of Env-Wq 2101, *Water Conservation* rules. Within 10 working days of receiving the summary from NHDES, the applicant is required to provide a copy of the water conservation plan via certified mail with return receipt requested to the governing board of the municipality in which a proposed source is located, all municipalities that will receive water from the water system (if any), all wholesale customers (if any) and the regional planning commission serving the location of the proposed source. In most cases, only the municipality and the regional planning commission will require notification. All signed copies of the certified mail return receipts (the green cards) must be forwarded to NHDES along with the final, signed water conservation plan.

Additional Attachments

The applicant must provide the governing boards with a summary of the requirements of Env-Wq 2101, which may be found at http://des.nh.gov/organization/divisions/water/dwgb/water_conservation/index.htm, and request that the governing board amend local site planning requirements to reflect the requirements of Env-Wq 2101 or to promote water efficiency.

Notification of Consecutive Water Systems and Privately Owned Redistribution Systems

Within 5 working days of obtaining final approval of the source from NHDES, the system is required to notify any consecutive water system or privately owned redistribution system receiving water from the system, that pursuant to Env-Wq 2101.13, the systems must implement a water conservation plan and should contact the NHDES Water Conservation Program using the contact information below.

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New Hampshire Department of Environmental Services
Drinking Water and Groundwater Bureau
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kelsey.vaughn@des.nh.gov
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